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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,537	09/28/2001	Yeong Jong Shin	K-261	2652

34610 7590 07/25/2006

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EXAMINER	
HYUN, SOON D	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/964,537	SHIN, YEONG JONG	
	Examiner	Art Unit	
	Soon D. Hyun	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-23 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-20* is/are allowed.

6)☒ Claim(s) *1,3 ,5-16, and 21-23* is/are rejected.

7)☐ Claim(s) *4 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 15, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1, 3, 5, 8-14, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al (U.S. Patent no. 6,069,871) in view of Chheda et al (U.S. Patent No. 6,038,448).

Regarding claims 1, 8-10, and 21-23, Sharma et al (Sharma) discloses a method for performing a handoff between mobile communication networks, comprising:

performing a first (soft) handoff (col. 11, lines 50-53) from a first base station or cell (802B in FIG. 8) of a first communication network (a network using a frequency F2)

to a first sector (sector j) of a gateway base station or cell G (804A or 804B in FIG. 8), when a pilot signal strength from the gateway base station greater than that of the first base station(col. 5, lines 36-60 and col. 12, lines 49-56), the first handoff is a soft handoff and thus, the frequency F2 is maintained during the handoff;

performing an inter-sector (soft) handoff (col. 11, lines 50-54) from the first sector (sector j) of the gateway base station to a second sector (sector k) of the gateway base station and further performing a hard handoff (col. 11, lines 54-56) in the sector k, i.e., the inter-sector (sector j to sector k) hard handoff is consequently performed by changing from the frequency F2 to frequency F1 (a second cell or base station 806 is using the FI) when a pilot signal strength of the gateway base station exceeds that of a pilot signal strength from the first base station; and

performing a second (soft) handoff from the second sector (sector k) of the gateway base station to a second base station (806 in FIG. 8) of a second communication network (a network using the frequency F1) when a pilot

signal strength of the second base station exceeds that of a pilot signal strength from the gateway base station (col. 5, lines 36-60 and col. 12, lines 49-56). The second handoff is a soft handoff and thus, the frequency F1 is maintained during the handoff.

However, Sharma doe not explicitly teach that threshold values as recited in claims.

Chheda et al (Chheda) discloses a method of performing handoff when a mobile station moves a first cell (614) to a first sector (616 B) of a second cell (616) to a second sector (626 B) of the second cell and finally to a third cell (618)

(FIG. 6, col. 11, lines 48-50) and the method comprises the steps of performing a first handoff from the first cell to the first sector of the second cell (col. 11 , lines 63-65) when a pilot signal strength from the second cell exceeds a threshold value (col. 12, lines 9-14), performing an inter-sector handoff from the first sector of the second cell to the second sector of the second cell when a pilot signal strength of the first base station meets a drop threshold value (col. 8, lines 6-18), and performing a second handoff from the second sector of the second cell to the second cell when a pilot signal strength of the cell B exceeds a threshold value (col. 12, lines 9-14).

Those of skill in the art would have been motivated by Chheda to incorporate the method of handoff taught by Chheda into Sharma with the thresholds when the mobile station (810) initially communicating with the first cell (820) moves to the gateway cell (804) and finally moves to the second cell (806). It would have been obvious to one having ordinary skill in the art to incorporate the method of handoff taught by Chheda into Sharma to maintain the communication.

Regarding claim 3, Sharma further discloses that the first and second handoffs are a soft handoff (col. 11, lines 37-59).

Regarding claim 5, Sharma does not explicitly teach that each of the first base station, the second base station and the gateway base station, respectively connected to a respective base station controller. It would have been obvious to one having ordinary skill in the art to connect the each of the base

stations to a respective base station controller unexpected results can be seen form the use of the controllers.

Regarding claims 11 and 12-14, Sharma discloses a method for performing a handoff in a mobile communication network having a cell A, a cell B and a cell G coupled to the cell A and Cell B, comprising:

performing a first (soft) handoff (col. 11, lines 50-53) from the cell A (802B in FIG. 8) to an α sector (sector j) of the cell G (804A or 804B in FIG. 8) if a pilot signal strength from the gateway base station greater than that of the first base station(col. 5, lines 36-60 and col. 12, lines 49-56), i.e., the cell A is using F2 frequency and the F2 is maintained during the handoff;

performing an inter-sector (soft) handoff (col. 11, lines 50-54) from the α sector (sector j) of the cell G to a β sector (sector k) of the cell G and further performing a hard handoff (col. 11, lines 54-56) in the sector k, i.e., the inter-sector (sector j to sector k) hard handoff is consequently performed by changing from the frequency F2 to a frequency F1 (a cell B 806 is using the FI) if a pilot signal strength of the gateway base station exceeds that of a pilot signal strength from the first base station; and

performing a second (soft) handoff from the β sector (sector k) of the cell G to the cell B (806 in FIG. 8) if a pilot signal strength of the second base station exceeds that of a pilot signal strength from the gateway base station (col. 5, lines 36-60 and col. 12, lines 49-56), wherein the cell a and α sector (sector j) of the cell G use a first frequency F2 and signal strengths overlapped with each other and the cell B and

the β sector (sector k) of the cell G use the second frequency F1 and signal strengths overlapped with each other.

However, Sharma does not explicitly teach that threshold values as recited in claims.

Chheda et al (Chheda) discloses a method of performing handoff when a mobile station moves a first cell (614) to a first sector (616 B) of a second cell (616) to a second sector (626 B) of the second cell and finally to a third cell (618) (FIG. 6, col. 11, lines 48-50) and the method comprises the steps of performing a first handoff from the first cell to the first sector of the second cell (col. 11 , lines 63-65) when a pilot signal strength from the second cell exceeds a threshold value (col. 12, lines 9-14), performing an inter-sector handoff from the first sector of the second cell to the second sector of the second cell when a pilot signal strength of the first base station meets a drop threshold value (col. 8, lines 6-18), and performing a second handoff from the second sector of the second cell to the second cell when a pilot signal strength of the cell B exceeds a threshold value (col. 12, lines 9-14).

Those of skill in the art would have been motivated by Chheda to incorporate the method of handoff taught by Chheda into Sharma with the thresholds when the mobile station (810) initially communicating with the first cell (820) moves to the gateway cell (804) and finally moves to the second cell (806). It would have been obvious to one having ordinary skill in the art to incorporate the method of handoff taught by Chheda into Sharma to maintain the

communication.

4. Claims 6, 7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al (U.S. Patent no. 6,069,871) and Chheda et al (U.S. Patent No. 6,038,448) further in view of Jalloul et al (U.S. Patent No. 6,768,908).

Refer to the discussion for claims 1 and 11.

However, Sharma + Chheda does not teach that the first communication network is CDMA 2G (a first communication standard) and the second communication network is CDMA 3G (a second communication standard). Jalloul et al (Jalloul) teaches a soft handoff method for CDMA 2G (IS-95B) and CDMA 3G (IS-95C), see col. 3, lines 1-12.

Those of skill in the art to have been motivated by Jalloul to incorporate a handoff method between CDMA 2G and CDMA 3G by performing hard handoff, because a hard hand off is simpler that a soft hand off.

Therefore, it would have been obvious to one having ordinary skill in the art to incorporate a hard handoff between CDMA 2G and CDMA 3G into Sharma + Chheda.

Allowable Subject Matter

5. Claims 17-20 are allowed.

6. Claim 4 and 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed March 13, 2006 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant summarizes (page 13 of the Remarks) the differences between Sharma and claim 1.

Applicant argues that claim 1 of the application differs from Sharma in that claim 1 changes 1st frequency (F2) to 2nd frequency for the inter-sector hard handoff, but Sharma changes 2nd frequency (F1) to 1st frequency for the handoff. Examiner disagrees.

As discussed in the claim rejection above, the inter-sector handoff, i.e., from sector j to sector k. Sharma clearly teaches that the first frequency F2 is changed to the second frequency F1 via the soft handoff and then the hard handoff.

Applicant further argues that Claim 1 of the application differs from Sharma in that Claim 1 maintains 2nd frequency (F2) for the second handoff, but Sharma maintains 1st frequency (F2) for the second handoff. Examiner disagrees.

As discussed in the claim rejection above, the second handoff, i.e., from sector k to the cell or base station 806, Sharma clearly teaches that the second frequency F1 is maintained via the soft handoff.

Regarding claim 9, Applicant argues (page 3, lines 12-16 of the Remarks) that Sharma does not teach the features (the hard handoff) of claim. Examiner disagrees. Refer to the claim rejection regarding claim 1.

Regarding claim 11, Applicant argues (page 14, lines 17-19) that Sharma does not teach the features of claim. Examiner disagrees. Refer to the claim rejection.

Regarding claim 13, Applicant argues (page 15, lines 3-7) that Sharma does not teach the features of claim. Examiner disagrees. Refer to the claim rejection above.

Regarding claim 21, Applicant argues (page 15, lines 9-17) that Sharma does not teach the features of claim. Examiner disagrees. Refer to the claim rejection.

Regarding claims 6, 7, 15, and 16, Applicant argues (page 16, lines 5-8) that the references do not teach the features of claims 1 and 11. Refer to the response to arguments for claims 1 and 11.

For reasons as discussed above, Examiner believes that the claim rejection is proper.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Soon D. Hyun whose telephone number is 571-272-3121. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S. Hyun
7/18/2006

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